

#23



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RAW SEQUENCE LISTING

DATE: 08/10/2004

PATENT APPLICATION: US/09/909,238F

TIME: 11:09:44

Input Set : N:\LMOORE\pto.lm 09909238f.TXT

Output Set: N:\CRF4\08102004\I909238F.raw

3 <110> APPLICANT: ARTEMIS PHARMACEUTICALS GmbH

5 <120> TITLE OF INVENTION: Recombinant Influenza Viruses with Bicistronic vRNAs Coding
for Two Genes

6 in Tandem Arrangement

8 <130> FILE REFERENCE: Kreisler 1092-KGB

C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/909,238F

C--> 11 <141> CURRENT FILING DATE: 2001-07-19

13 <160> NUMBER OF SEQ ID NOS: 24

15 <170> SOFTWARE: PatentIn Ver. 2.1

17 <210> SEQ ID NO: 1

18 <211> LENGTH: 12

19 <212> TYPE: RNA

20 <213> ORGANISM: Influenza A virus

22 <400> SEQUENCE: 1

23 ccugcuuuug cu 12

26 <210> SEQ ID NO: 2

27 <211> LENGTH: 12

28 <212> TYPE: RNA

29 <213> ORGANISM: Influenza B virus

31 <220> FEATURE:

32 <221> NAME/KEY: misc_feature

33 <222> LOCATION: (1)...(2)

34 <223> OTHER INFORMATION: n=any nucleotide

36 <220> FEATURE:

37 <221> NAME/KEY: misc_feature

38 <222> LOCATION: (3)

39 <223> OTHER INFORMATION: y is t/u or c

W--> 40 <400> SEQUENCE: 2

W--> 41 nnygcuucug cu 12

44 <210> SEQ ID NO: 3

45 <211> LENGTH: 12

46 <212> TYPE: RNA

47 <213> ORGANISM: Influenza C virus

49 <400> SEQUENCE: 3

50 ccugcuucug cu 12

54 <210> SEQ ID NO: 4

55 <211> LENGTH: 12

56 <212> TYPE: RNA

57 <213> ORGANISM: Artificial Sequence

59 <220> FEATURE:

60 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified

61 influenza A 3'-sequence (pHL1104 and pHL1920)

63 <400> SEQUENCE: 4

64 ccuguuucua cu 12

ENTERED

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Input Set : N:\LMOORE\pto.lm 09909238f.TXT

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67 <210> SEQ ID NO: 5
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69 <212> TYPE: RNA
70 <213> ORGANISM: Artificial Sequence
72 <220> FEATURE:
73 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
74     influenza A 3'-sequence (pHL1948)
76 <400> SEQUENCE: 5
77 ccugguucuc cu                                     12
80 <210> SEQ ID NO: 6
81 <211> LENGTH: 13
82 <212> TYPE: RNA
83 <213> ORGANISM: Influenza A virus
85 <400> SEQUENCE: 6
86 aguagaaaca agg                                     13
89 <210> SEQ ID NO: 7
90 <211> LENGTH: 13
91 <212> TYPE: RNA
92 <213> ORGANISM: Influenza B virus
94 <220> FEATURE:
95 <221> NAME/KEY: misc_feature
96 <222> LOCATION: (12)..(13)
97 <223> OTHER INFORMATION: n=any nucleotide
99 <220> FEATURE:
100 <221> NAME/KEY: misc_feature
101 <222> LOCATION: (6)
102 <223> OTHER INFORMATION: w is a or t/u
104 <220> FEATURE:
105 <221> NAME/KEY: misc_feature
106 <222> LOCATION: (11)
107 <223> OTHER INFORMATION: r is g or a
111 <400> SEQUENCE: 7
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115 <210> SEQ ID NO: 8
118 <211> LENGTH: 13
119 <212> TYPE: RNA
120 <213> ORGANISM: Influenza C virus
122 <400> SEQUENCE: 8
123 agcaguagca agr                                     13
126 <210> SEQ ID NO: 9
127 <211> LENGTH: 13
128 <212> TYPE: RNA
129 <213> ORGANISM: Artificial Sequence
131 <220> FEATURE:
132 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
133     influenza A 5'-sequence (pHL1920)
135 <400> SEQUENCE: 9
136 agaagaauca agg                                     13
139 <210> SEQ ID NO: 10

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Input Set : N:\LMOORE\pto.lm 09909238f.TXT

Output Set: N:\CRF4\08102004\I909238F.raw

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140 <211> LENGTH: 21
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145 <221> NAME/KEY: misc_feature
146 <222> LOCATION: (14)..(16)
147 <223> OTHER INFORMATION: n=any nucleotide
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156 <212> TYPE: RNA
157 <213> ORGANISM: Artificial Sequence
159 <220> FEATURE:
160 <221> NAME/KEY: misc_feature
161 <222> LOCATION: (14)..(16)
162 <223> OTHER INFORMATION: n=any nucleotide
165 <220> FEATURE:
166 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
167     influenza A 5'-sequence (pHL1920)
169 <400> SEQUENCE: 11
W--> 170 agaagaauca aggnnnuuuu u 21
173 <210> SEQ ID NO: 12
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178 <220> FEATURE:
179 <221> NAME/KEY: misc_feature
180 <222> LOCATION: (12)..(16)
181 <223> OTHER INFORMATION: n=any nucleotide
183 <220> FEATURE:
184 <221> NAME/KEY: misc_feature
185 <222> LOCATION: (6)
186 <223> OTHER INFORMATION: w is a or t/u
188 <220> FEATURE:
189 <221> NAME/KEY: misc_feature
190 <222> LOCATION: (11)
191 <223> OTHER INFORMATION: r is g or a
193 <400> SEQUENCE: 12
W--> 194 aguagwaaca rnnnnnnuuuu u 21
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198 <211> LENGTH: 19
199 <212> TYPE: RNA
200 <213> ORGANISM: Artificial Sequence
202 <220> FEATURE:
203 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
204     influenza C 5'-sequence
206 <400> SEQUENCE: 13
207 aguaguaaca agrguuuuu 19

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TIME: 11:09:44

Input Set : N:\LMOORE\pto.lm 09909238f.TXT

Output Set: N:\CRF4\08102004\I909238F.raw

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211 <212> TYPE: RNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
215 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
216     influenza A 3'-sequence (pHL1104 and pHL1920)
218 <220> FEATURE:
219 <221> NAME/KEY: misc_feature
220 <222> LOCATION: (1)...(3)
221 <223> OTHER INFORMATION: n=any nucleotide
224 <400> SEQUENCE: 14
W--> 225 nnnccuguuu cuacu 15
227 <210> SEQ ID NO: 15
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229 <212> TYPE: RNA
230 <213> ORGANISM: Artificial Sequence
232 <220> FEATURE:
233 <221> NAME/KEY: misc_feature
234 <222> LOCATION: (1)...(3)
235 <223> OTHER INFORMATION: n=any nucleotide
237 <220> FEATURE:
238 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
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241 <400> SEQUENCE: 15
W--> 242 nnnccugguu cuccu 15
244 <210> SEQ ID NO: 16
245 <211> LENGTH: 15
246 <212> TYPE: RNA
247 <213> ORGANISM: Artificial Sequence
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: (1)...(5)
252 <223> OTHER INFORMATION: n=any nucleotide
254 <220> FEATURE:
255 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
256     influenza B 3' sequence
258 <400> SEQUENCE: 16
W--> 259 nnnnnnyguuu cuacu 15
261 <210> SEQ ID NO: 17
262 <211> LENGTH: 14
263 <212> TYPE: RNA
264 <213> ORGANISM: Artificial Sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: Description of Artificial Sequence: Modified
268     influenza C 3'-sequence
270 <400> SEQUENCE: 17
271 ccccuguuuc uacu 14
273 <210> SEQ ID NO: 18

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RAW SEQUENCE LISTING

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PATENT APPLICATION: US/09/909,238F

TIME: 11:09:44

Input Set : N:\LMOORE\pto.lm 09909238f.TXT

Output Set: N:\CRF4\08102004\I909238F.raw

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276 <213> ORGANISM: Influenza A virus
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279 aggtacgttc 10
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283 <211> LENGTH: 32
284 <212> TYPE: DNA
285 <213> ORGANISM: Influenza A virus
287 <400> SEQUENCE: 19
288 gctgaaaaat gatcttcttg aaaattgcag gc 32
291 <210> SEQ ID NO: 20
292 <211> LENGTH: 3888
293 <212> TYPE: DNA
294 <213> ORGANISM: Artificial Sequence
296 <220> FEATURE:
297 <223> OTHER INFORMATION: Description of Artificial Sequence: pHL1920
299 <400> SEQUENCE: 20
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301 gggggggggg ggggggggga cactttcggg catctggtcg acctccagca tcgggggaaa 120
302 aaaaaaaaaa aaagtttcgc ccggagtact ggctcgacct cgaagttggg ggggagtaga 180
303 aacagggtag ataatactc actgagtgac atccacatcg cgagcgcgcg taatacgact 240
304 cactataggg cgaattgggt accgggcccc ccctcgaggt cgacggtatc gataagcttc 300
305 gacgagatth tcaggagcta aggaagctaa aatggagaaa aaaatcactg gatataccac 360
306 cgttgatata tccaatggc atcgtaaaga acattttgag gcatttcagt cagttgctca 420
307 atgtacctat aaccagaccg ttcagctgga tattacggcc tttttaaaga ccgtaaagaa 480
308 aaataagcac aagttttatc cggcctttat tcacattctt gcccgcctga tgaatgctca 540
309 tccggaattc cgtatggcaa tgaaagacgg tgagctgggtg atatgggata gtgttcaccc 600
310 ttgttacacc gttttccatg agcaaatga aacgttttca tcgctctgga gtgaatacca 660
311 cgacgatttc cggcagtttc tacacatata ttcgcaagat gtggcggtgt acggtgaaaa 720
312 cctggcctat ttccctaaag ggtttattga gaatatgttt ttcgtctcag ccaatccctg 780
313 ggtgagtttc accagttttg atttaaacgt ggccaatatg gacaacttct tcgccccgt 840
314 tttcaccatg ggcaaatatt atacgcaagg cgacaagggt ctgatgccgc tggcgattca 900
315 ggttcacatc gccgtttgtg atggcttcca tgcggcaga atgcttaatg aattacaaca 960
316 gtactgcgat gagtggcagg gcggggcgta atttttttaa ggcagttatt ggtgccctta 1020
317 aacgcctggt gctacgcctg aataagtgat aataagcggg tgaatggcag aaattcgctg 1080
318 aagcttgata tcgaattcct gcagcccggg ggatccacta gttctagagc ggccgccacc 1140
319 gcggtggagc tccagctttt gttcccttta gtgagggtta attgcgcgca ggcctagcta 1200
320 ggtaaagaaa aataacccttg attcttctaa taaccgcggc gcccaaatg ccgactcgga 1260
321 gcgaaagata tacctcccc cggggcggga ggtcgcgta ccgaccacgc cgccggccca 1320
322 ggcgacgcgc gacacggaca cctgtcccca aaaacgccac catcgagcc acacacggag 1380
323 cgcccggggc cctctggtca accccaggac acacgcggga gcagcgccgg gccggggacg 1440
324 cctccccggc cgcccggtgc acacgcaggg ggccggcccc tgtctccaga gcgggagccg 1500
325 gaagcatttt cggccggccc ctctacgac cgggacacac gagggaccga aggcgggcca 1560
326 ggcgcgacct ctggggcgc acgcgcgctc agggagcgct ctccgactcc gcacggggag 1620
327 tcgcccagaaa ggatcgtgac ctgcattaat gaataggggg ataacgcagg aaagaacatg 1680
328 tgagcaaaaag gccagcaaaa ggccaggaac cgtaaaaagg ccgcgttgct ggcgtttttc 1740
329 cataggctcc gccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga 1800
330 aaccgcagag gactataaag ataccaggcg tttccccctg gaagctccct cgtgcgctct 1860

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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 08/10/2004
PATENT APPLICATION: US/09/909,238F TIME: 11:09:45

Input Set : N:\LMOORE\pto.lm 09909238f.TXT
Output Set: N:\CRF4\08102004\I909238F.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; N Pos. 1,2
Seq#:7; N Pos. 12,13
Seq#:10; N Pos. 14,15,16
Seq#:11; N Pos. 14,15,16
Seq#:12; N Pos. 12,13,14,15,16
Seq#:14; N Pos. 1,2,3
Seq#:15; N Pos. 1,2,3
Seq#:16; N Pos. 1,2,3,4,5

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 5

VERIFICATION SUMMARY

DATE: 08/10/2004

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TIME: 11:09:45

Input Set : N:\LMOORE\pto.lm 09909238f.TXT

Output Set: N:\CRF4\08102004\I909238F.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:40 M:283 W: Missing Blank Line separator, <400> field identifier
L:41 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:112 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:151 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:170 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11 after pos.:0
L:194 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0
L:225 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14 after pos.:0
L:242 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15 after pos.:0
L:259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16 after pos.:0